WHAT IS CLAIMED IS:

1.   An image input apparatus comprising:

a projector unit for projecting image pick-up light onto an image object;

an image pick-up unit for picking up an image of the image object;

a support unit for supporting the image pick-up unit; and

a mover unit for moving the image pick-up unit relatively with the support unit,

wherein the projector unit projects a predetermined projection light pattern onto the image object,

the image pick-up unit picks up a projection image containing a visual angle distortion of the predetermined projection light pattern,

the relative position between the projector unit and the image pick-up unit is fixed, and

the mover unit causes relative movement of the image pick-up unit so as to pick up a plurality of projection images at different image pick-up locations.

2.   The image input apparatus as claimed in claim 1, wherein

5   the relative position between the projector unit and the support unit is fixed, and

the mover unit moves the image pick-up unit so that the image pick-up unit picks up the plurality of projection images at different image pick-up

10   locations.

15   3.   The image input apparatus as claimed in claim 1, wherein the image pick-up unit picks up a non-projection image formed when the projector unit does not project light onto the image object.

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4.   The image input apparatus as claimed in claim 1, further comprising a location memory unit

25   for storing location data of the image pick-up unit

when an image is picked up by the image pick-up unit,

wherein a visual angle distortion of the image picked up by the image pick-up unit is corrected in accordance with the location data stored

5   in the location memory unit.

10   5.   The image input apparatus as claimed in claim 1, further comprising a switch unit for switching an image pick-up mode between a first operation mode for picking up a flat image and a second operation mode for picking up a three-

15   dimensional image.

20   6.   The image input apparatus as claimed in claim 1, wherein the image pick-up unit performs a preliminary image pick-up operation on an image pick-up area.

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7. The image input apparatus as claimed in claim 1, wherein the projector unit projects a projection light pattern for indicating an image pick-up area before the image pick-up unit performs an image pick-up operation on the image object.

8. The image input apparatus as claimed in claim 5, wherein,

in the first operation mode, the image pick-up unit performs an image pick-up operation without light projection from the projector unit, and

in the second operation mode, the projector unit projects the predetermined projection light pattern onto the image object, so that the image pick-up unit picks up the projection image containing a visual angle distortion of the projection light pattern.

9. The image input apparatus as claimed in claim 5, wherein, in the second operation mode, before or after the image pick-up unit picks up the projection image, the image pick-up unit picks up a non-projection image formed when the projector unit does not project light onto the image object.

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10. The image input apparatus as claimed in claim 1, further comprising a three-dimensional configuration measurement unit for measuring a three-dimensional configuration of an image object in accordance with an image picked up by the image pick-up unit.

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11. The image input apparatus as claimed in claim 10, further comprising a three-dimensional image forming unit for forming a three-dimensional image in accordance with the image picked up by the

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image pick-up unit and the three-dimensional
configuration of the image object obtained by the
three-dimensional configuration measuring unit.

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   12. The image input apparatus as claimed in
claim 1, further comprising a visual angle distortion
10 correcting unit for correcting a visual angle
distortion of each picked up image.

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   13. The image input apparatus as claimed in
claim 1, wherein the support unit is rotatable.

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   14. An image input apparatus comprising:
  an image pick-up unit;
  a support unit for supporting the image
25 pick-up unit; and

a three-dimensional configuration measuring unit for measuring a three-dimensional image object,

which apparatus has three image pick-up modes consisting of:

5   a paper image pick-up mode for picking up an image of a flat object such as paper;

a book image pick-up mode for picking up an image of a double-page spread object such as an opened book; and

10   a three-dimensional image pick-up mode for picking up an image of a three-dimensional object.

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15.   The image input apparatus as claimed in claim 14, wherein the image pick-up unit has a plurality of image pick-up resolution settings corresponding to the image pick-up modes.

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16.   The image input apparatus as claimed in
25 claim 14, further comprising:

an image object determining unit for determining characteristic features of the image object in accordance with a measurement result obtained by the three-dimensional configuration

5 measuring unit; and

an automatic mode select unit for automatically selecting one of the three image pick-up modes in accordance with a determined result from the image object determining unit.

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17. An image input apparatus comprising:

15 a projector unit for projecting image pick-up light onto an image object;

an image pick-up unit for picking up an image of the image object;

a support unit for supporting the image

20 pick-up unit; and

a mover unit for moving the image pick-up unit relatively with the support unit,

wherein the projector unit projects a predetermined projection light pattern onto the image

25 object,

the image pick-up unit picks up a projection image containing a visual angle distortion of the predetermined projection light pattern, and

the mover unit moves the image pick-up unit
5   by a very small distance, so that the image pick-up unit picks up a plurality of projection images in image pick-up positions that are only slightly shifted from one another.

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18.   The image input apparatus as claimed in claim 17, further comprising a composition unit for
15 combining three-dimensional configuration data obtained in accordance with the plurality of projection images so as to generate combined three-dimensional configuration data.

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